

10/595,942-330158-EIC SEARCH

TEXT SEARCH

=> d his 161

(FILE 'HCAPLUS' ENTERED AT 13:06:58 ON 07 MAY 2010)

L61 14 S L57 AND (L59 OR L60)

=> d que 161

L1 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON US20090108232/
 PN
 L3 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 12031-66-2/RN
 L4 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 1314-61-0/RN
 L5 1 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 12057-24-8/RN
 L6 4831 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L3
 L7 SEL PLU=ON L3 1- NAME : 5 TERMS
 L8 4918 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L7
 L10 19677 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L4
 L11 SEL PLU=ON L4 1- NAME : 12 TERMS
 L12 30017 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L11
 L14 18247 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L5
 L15 SEL PLU=ON L5 1- NAME : 5 TERMS
 L16 28098 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L15
 L17 15108 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L14 AND L16
 L19 4516 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L6 AND L8
 L20 18206 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L10 AND L12
 L21 39 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L17 AND L19
 AND L20
 L22 QUE SPE=ON ABB=ON PLU=ON (MOLAR OR MOLE) (4A) RATIO
 L23 3 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L21 AND L22
 L24 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L1 AND L23
 L25 3 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON (LIO2) (2W) (TA2
 O5)
 L26 2 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON 0.975 (3W) 0.982
 L27 18 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON GTOREQ (4A) 0.97
 5
 L28 10 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON LTOREQ (4A) 0.98
 2
 L29 0 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L27 AND L28
 L30 129 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON ((LITHIUM OR
 DILITHIUM) (A) (OXIDE OR DIOXIDE) OR LIO2 OR O2LI OR
 LI2O OR OLI2) (5W) (TANTALUM(A) OXIDE OR TA2O5 OR O5TA)
 L36 89176 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON BIREFRINGENCE+
 MAX/CT
 L38 37641 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON BIREFRING?
 L40 19976 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON .-.0.0005
 L41 19976 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON 0.0005
 L42 850 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L40 (4A) L41
 L43 45 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L40 (L) (L36 OR
 L38)
 L44 45 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L41 (L) (L36 OR
 L38)
 L45 45 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L43 AND L44
 L46 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L42 (L) (L36 OR
 L38)
 L47 QUE SPE=ON ABB=ON PLU=ON LENS? OR OPTIC? OR OPTO?
 L48 17 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L21 AND L47
 L49 4 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L48 AND (L36
 OR L38)
 L50 1 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L49 AND ((L40
 OR L41 OR L42 OR L43 OR L44 OR L45 OR L46))
 L51 3 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L48 AND L22
 L52 5 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L48 AND (L22

10/595,942-330158-EIC SEARCH

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                OR L36 OR L38)
L53             3 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L52 AND ((L23
                OR L24 OR L25 OR L26 OR L27 OR L28 OR L29))
L54             4 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L52 AND L30
L55             4 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L53 OR L54
L56             1 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L52 AND ((L40
                OR L41 OR L42 OR L43 OR L44 OR L45 OR L46))
L57             17 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L48 OR L49
                OR L50 OR L51 OR L52 OR L53 OR L54 OR L55 OR L56)
L59             QUE  SPE=ON  ABB=ON  PLU=ON  PY=<2005 NOT P/DT
L60             QUE  SPE=ON  ABB=ON  PLU=ON  (PY=<2005 OR PRY=<2005 OR
                AY=<2005 OR MY=<2005 OR REVIEW/DT) AND P/DT
L61             14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L57 AND (L59
                OR L60)

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=> d his 169

(FILE 'MEDLINE, BIOSIS, EMBASE' ENTERED AT 13:49:04 ON 07 MAY 2010)

L69 0 S L66 AND L67 AND L68

=> d que 169

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L3             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  12031-66-2/RN
L4             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  1314-61-0/RN
L5             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  12057-24-8/RN

L7             SEL  PLU=ON  L3 1- NAME :      5 TERMS
L11            SEL  PLU=ON  L4 1- NAME :     12 TERMS
L15            SEL  PLU=ON  L5 1- NAME :      5 TERMS
L66            145 SEA L7
L67            262 SEA L11
L68            183 SEA L15
L69            0 SEA L66 AND L67 AND L68

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=> d his 187

(FILE 'DISSABS, PASCAL, CONFSCI, JAPIO, WPIX' ENTERED AT 14:00:40 ON 07 MAY 2010)

L87 3 S L85 OR L86
 SAV TEMP L87 PEE942MULT/A

FILE 'HCAPLUS' ENTERED AT 14:08:48 ON 07 MAY 2010
 SAV TEMP L61 PEE942HCP/A

FILE 'STNGUIDE' ENTERED AT 14:09:18 ON 07 MAY 2010

=> d que 187

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L3             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  12031-66-2/RN
L4             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  1314-61-0/RN
L5             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  12057-24-8/RN

L7             SEL  PLU=ON  L3 1- NAME :      5 TERMS
L11            SEL  PLU=ON  L4 1- NAME :     12 TERMS
L15            SEL  PLU=ON  L5 1- NAME :      5 TERMS
L22            QUE  SPE=ON  ABB=ON  PLU=ON  (MOLAR OR MOLE) (4A)RATIO
L25            3 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (LIO2) (2W) (TA2
                O5)
L26            2 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  0.975(3W)0.982
L27            18 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  GTOREQ(4A)0.97
                5

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10/595,942-330158-EIC SEARCH

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L28      10 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  LTOREQ(4A) 0.98
          2
L30      129 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  ((LITHIUM OR
          DILITHIUM)(A)(OXIDE OR DIOXIDE) OR LIO2 OR O2LI OR
          LI2O OR OLI2)(5W)(TANTALUM(A)OXIDE OR TA2O5 OR O5TA)
L38      37641 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  BIREFRING?
L40      19976 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  .-.0.0005
L41      19976 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  0.0005
L59      QUE  SPE=ON  ABB=ON  PLU=ON  PY=<2005 NOT P/DT
L60      QUE  SPE=ON  ABB=ON  PLU=ON  (PY=<2005 OR PRY=<2005 OR
          AY=<2005 OR MY=<2005 OR REVIEW/DT) AND P/DT
L70      2760 SEA L7
L71      12031 SEA L11
L72      9963 SEA L15
L73      25 SEA L70 AND L71 AND L72
L74      5 SEA L73 AND L22
L75      1 SEA L73 AND L38
L76      1 SEA L74 AND L75
L77      5 SEA (L74 OR L75 OR L76)
L78      1 SEA L77 AND ((L25 OR L26 OR L27 OR L28))
L79      2 SEA L77 AND L30
L80      1 SEA L77 AND (L40 OR L41)
L81      18 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  0.0005(3A)(PLU
          S OR MINUS)
L83      1 SEA L77 AND L81
L84      5 SEA (L77 OR L78 OR L79 OR L80) OR L83
L85      0 SEA L84 AND L59
L86      3 SEA L84 AND L60
L87      3 SEA L85 OR L86

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=> dup rem 161 169 187

L69 HAS NO ANSWERS

FILE 'HCAPLUS' ENTERED AT 14:12:26 ON 07 MAY 2010

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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FILE 'WPIX' ENTERED AT 14:12:26 ON 07 MAY 2010

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PROCESSING COMPLETED FOR L61

PROCESSING COMPLETED FOR L69

PROCESSING COMPLETED FOR L87

L88 16 DUP REM L61 L69 L87 (1 DUPLICATE REMOVED)

ANSWERS '1-14' FROM FILE HCAPLUS

ANSWERS '15-16' FROM FILE WPIX

10/595,942-330158-EIC SEARCH

TEXT SEARCH RESULTS

=> d 188 1-16 ibib ed abs hitstr hitind

L88 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 2005:472377 HCAPLUS Full-text

DOCUMENT NUMBER: 143:16264

TITLE: Optical material,
optoelectronic part and
optoelectronic applianceINVENTOR(S): Kumatoriya, Makoto; Chiku, Shinichiro; Geho,
Mikio; Fujii, Takashi; Kitamura, Kenji;
Takekawa, Shunji; Nakamura, MasaruPATENT ASSIGNEE(S): National Institute for Materials Science,
Japan

SOURCE: PCT Int. Appl., 20 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
WO 2005049897	A1	20050602	WO 2004-JP15046	2004 1013

<--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG,
ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,
KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL,
PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH,
CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU,
MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI,
CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1693488 A1 20060823 EP 2004-792290

2004
1013

<--

R: DE, FR, GB

US 20090108232 A1 20090430 US 2006-595942

2006
0520

<--

PRIORITY APPLN. INFO.: JP 2003-392870 A

2003
1121

<--

WO 2004-JP15046 W

2004
1013

<--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 03 Jun 2005

AB The invention relates to an optical material that is not affected by environmental changes, exhibiting a birefringence falling within the range of ± 0.0005 ; and an optoelectronic part and optoelectronic appliance including the optical material. There is provided an optical material of lithium tantalate characterized in that in the lithium tantalate the molar composition ratio of lithium oxide to

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tantalum oxide ($\text{LiO}_2/\text{Ta}_2\text{O}_5$) is in the range of 0.975 to 0.982. Since an optical material of high refractive index can be used in an optical system, the lens thickness can be reduced at an unchanged focal length. As a result, by the use of lens with such characteristics, not only can optoelectronic parts having realized higher levels of compactness, thin model and function enhancement be provided but also optoelectronic appliances having these characteristics can be presented.

IT 12031-66-2, Lithium tantalate
 RL: PRP (Properties); TEM (Technical or engineered material use);
 USES (Uses)
 (optical material and optoelectronic application)
 RN 12031-66-2 HCAPLUS
 CN Lithium tantalum oxide (LiTaO_3) (CA INDEX NAME)

Component	Ratio	Component Registry Number
=====+	=====+	=====+
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

IT 1314-61-0, Tantalum oxide
 12057-24-8, Lithium oxide, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (optical material and optoelectronic application)
 RN 1314-61-0 HCAPLUS
 CN Tantalum oxide (Ta_2O_5) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 RN 12057-24-8 HCAPLUS
 CN Lithium oxide (Li_2O) (CA INDEX NAME)

Li—O—Li

IC ICM C30B029-30
 ICS G02B001-00
 CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 ST optical material optoelectronic lens
 IT Lenses
 Optical materials
 (optical material and optoelectronic application)
 IT 12031-66-2, Lithium tantalate
 RL: PRP (Properties); TEM (Technical or engineered material use);
 USES (Uses)
 (optical material and optoelectronic application)
 IT 1314-61-0, Tantalum oxide
 12057-24-8, Lithium oxide, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (optical material and optoelectronic application)
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L88 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2005:1172105 HCAPLUS Full-text
 DOCUMENT NUMBER: 143:413341
 TITLE: Method and apparatus for manufacture of

10/595,942-330158-EIC SEARCH

INVENTOR(S): optical devices
 Okamoto, Tsutomu
 PATENT ASSIGNEE(S): Sony Corp., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2005309161	A	20051104	JP 2004-127182	2004 0422

PRIORITY APPLN. INFO.: <--
 JP 2004-127182
 2004
 0422

ED Entered STN: 04 Nov 2005
 AB Apparatus for manufacture of the devices includes a container for placing raw material powder, a support for placing the substrate over the container, a covering for the container and the support, and an outer container for high-temperature heat treatment of the covered materials. Manufacture of optical devices by vapor phase diffusion of oxides over substrates are claimed. Ferroelec. material may be deposited on the substrate by vapor transport equilibration.
 IT 1314-61-0, Tantalum oxide
 12057-24-8, Lithium oxide, uses
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (method and apparatus for manufacture of optical devices by vapor surface treatment of substrates)
 RN 1314-61-0 HCAPLUS
 CN Tantalum oxide (Ta2O5) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 RN 12057-24-8 HCAPLUS
 CN Lithium oxide (Li2O) (CA INDEX NAME)

Li_O_Li

IT 12031-66-2, Lithium tantalate
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (substrate; method and apparatus for manufacture of optical devices by vapor surface treatment of substrates)
 RN 12031-66-2 HCAPLUS
 CN Lithium tantalum oxide (LiTaO3) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

IC ICM G02F001-37
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

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ST substrate surface vapor treatment ~~optical~~ device; vapor
transport equilibration ferroelec layer ~~optical~~ device
substrate

IT Ferroelectric materials
(method and apparatus for manufacture of ~~optical~~ devices by
vapor surface treatment of substrates)

IT ~~Optical~~ instruments
(nonlinear; method and apparatus for manufacture of ~~optical~~
devices by vapor surface treatment of substrates)

IT Surface treatment
(vapor transport equilibration; method and apparatus for manufacture of
~~optical~~ devices by vapor surface treatment of
substrates)

IT 1314-61-0, Tantalum oxide
12057-24-8, Lithium oxide, uses
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); TEM (Technical or engineered material use); PROC
(Process); USES (Uses)
(method and apparatus for manufacture of ~~optical~~ devices by
vapor surface treatment of substrates)

IT 12031-66-2, Lithium tantalate
RL: DEV (Device component use); TEM (Technical or engineered
material use); USES (Uses)
(substrate; method and apparatus for manufacture of ~~optical~~
devices by vapor surface treatment of substrates)

L88 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:975836 HCAPLUS Full-text

DOCUMENT NUMBER: 143:276834

TITLE: Manufacture of defect-free single crystals by
Czochralski method without tailing process

INVENTOR(S): Ito, Takeshi; Hanyu, Masayuki; Matsukura,
Makoto; Natori, Masaaki; Nakamura, Osamu;
Furukawa, Yasunori; Matsumura, Sadao

PATENT ASSIGNEE(S): Oxide Corporation, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DOCUMENT TYPE: ~~Patent~~

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2005239442	A	20050908	JP 2004-47794	2004 0224

PRIORITY APPLN. INFO.: <--
JP 2004-47794
2004
0224

ED Entered STN: 08 Sep 2005

AB In preparation of single crystals with different composition between molten liqs. and
crystals, after formation of straight body parts is finished, parts of the crystals
being lifted (or stopped) are melted (by heating the molten liqs.) to be released from
the liqs. The process is effective for manufacturing of twin- or microcrack-free
ferroelec. crystals (e.g., Li tantalate, Li niobate, BaSr niobate) useful for ~~optical~~
communication devices.

IT 1314-61-0, Tantalum oxide (
Ta2O5) 12057-24-8, Lithium
oxide (Li2O), processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical
process); PROC (Process)
(manufacture of defect-free oxide single crystals by Czochralski
method without tailing process)

10/595,942-330158-EIC SEARCH

RN 1314-61-0 HCAPLUS
 CN Tantalum oxide (Ta2O5) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 12057-24-8 HCAPLUS
 CN Lithium oxide (Li2O) (CA INDEX NAME)

Li_O_Li

IT 12031-66-2P, Lithium tantalate
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
 (manufacture of defect-free oxide single crystals by Czochralski method without tailing process)
 RN 12031-66-2 HCAPLUS
 CN Lithium tantalum oxide (LiTaO3) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

IC ICM C30B015-22
 ICS C30B029-30
 CC 76-3 (Electric Phenomena)
 Section cross-reference(s): 57
 ST defect free ferroelec oxide crystal growth Czochralski; lithium tantalate niobate crystal tailing free Czochralski; melting lifting single crystal twin microcrack prevention
 IT 554-13-2, Lithium carbonate 1313-96-8, Niobium oxide (Nb2O5) 1314-61-0, Tantalum oxide (Ta2O5) 12057-24-8, Lithium oxide (Li2O), processes 107251-85-4, Barium niobium strontium oxide (Ba0.2NbSr0.3O3)
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
 (manufacture of defect-free oxide single crystals by Czochralski method without tailing process)
 IT 12031-63-9P, Lithium niobate 12031-66-2P, Lithium tantalate
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)
 (manufacture of defect-free oxide single crystals by Czochralski method without tailing process)

L88 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 2005:1283325 HCAPLUS Full-text
 DOCUMENT NUMBER: 144:118343
 TITLE: Method for preparing near-stoichiometric lithium tantalate wafer
 INVENTOR(S): Wang, Haili; Xia, Changtai; Xu, Jun; Hang, Yin; Zhang, Lianhan; Liu, Junfang; Zhu, Yueqin; He, Xiaoming
 PATENT ASSIGNEE(S): Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, Peop.

10/595,942-330158-EIC SEARCH

SOURCE: Rep. China
Faming Zhuanli Shenqing Gongkai Shuomingshu, 7
PP.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
CN 1621577	A	20050601	CN 2004-10067130	2004 1013

PRIORITY APPLN. INFO.: <--
CN 2004-10067130
2004
1013

ED Entered STN: 08 Dec 2005

AB The title method comprises: (1) placing mixed LiTaO₃ and Li₃TaO₄ blocks having pores in a platinum crucible, (2) setting or hanging lithium tantalate wafer having the same composition on the platinum wire, (3) covering with a platinum sheet which is covered by mixed LiTaO₃ and Li₃TaO₄ powder and thermocouple, (4) sealing with a platinum cap on the top of the crucible, and (5) placing the crucible in a resistance furnace, heating to 1000-1400ÅC, and maintaining the temperature for 1-200 h. By lithium ion diffusion, the crystal composition approaches the stoichiometric proportion. The method is simple, and the produced wafer has wide application in optical waveguide, photoelec. switch, periodic polarization, integrated photoelec. device and other fields.

IT 12031-66-2, Lithium tantalate

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(method for preparing near-stoichiometric lithium tantalate wafer)

RN 12031-66-2 HCAPLUS

CN Lithium tantalum oxide (LiTaO₃) (CA INDEX NAME)

Component	Ratio	Component
=====	=====	=====
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

IT 1314-61-0, Tantalum pentoxide

RL: RCT (Reactant); RACT (Reactant or reagent)
(method for preparing near-stoichiometric lithium tantalate wafer)

RN 1314-61-0 HCAPLUS

CN Tantalum oxide (Ta₂O₅) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 12057-24-8P, Lithium oxide,
preparation

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(method for preparing near-stoichiometric lithium tantalate wafer)

RN 12057-24-8 HCAPLUS

CN Lithium oxide (Li₂O) (CA INDEX NAME)

Li__O__Li

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IC ICM C30B029-30
 CC 75-1 (Crystallography and Liquid Crystals)
 Section cross-reference(s): 73
 ST near stoichiometric lithium tantalate wafer
 prepn
 IT Optical waveguides
 Photoelectric devices
 Sintering
 (method for preparing near-stoichiometric lithium
 tantalate wafer)
 IT 12031-90-2P, Lithium tantalum oxide (Li₃TaO₄)
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical
 process); SPN (Synthetic preparation); PREP (Preparation); PROC
 (Process)
 (method for preparing near-stoichiometric lithium
 tantalate wafer)
 IT 12031-66-3, Lithium tantalate
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical
 process); TEM (Technical or engineered material use); PROC
 (Process); USES (Uses)
 (method for preparing near-stoichiometric lithium
 tantalate wafer)
 IT 1308-38-9, Chromic oxide, uses 1309-37-1, Ferric oxide, uses
 1309-48-4, Magnesium oxide, uses 1312-43-2, Indium trioxide
 1313-97-9, Neodymium sesquioxide 1314-13-2, Zinc oxide, uses
 1314-37-0, Ytterbium oxide 1317-34-6, Manganic oxide
 1344-70-3, Copper oxide 1345-13-7, Cerous oxide 12060-08-1,
 Scandium oxide 12061-16-4, Erbium sesquioxide
 RL: MOA (Modifier or additive use); USES (Uses)
 (method for preparing near-stoichiometric lithium
 tantalate wafer)
 IT 554-13-2, Lithium carbonate 1314-61-0,
 Tantalum pentoxide
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (method for preparing near-stoichiometric lithium
 tantalate wafer)
 IT 12057-24-8P, Lithium oxide,
 preparation
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (method for preparing near-stoichiometric lithium
 tantalate wafer)

L88 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:260910 HCAPLUS Full-text

DOCUMENT NUMBER: 138:278488

TITLE: Pretreatment method for hologram recording
 medium

INVENTOR(S): Kitamura, Kenji; Takekawa, Shunji; Nakamura,
 Masaru; Yamaji, Takashi; Hatano, Hideki

PATENT ASSIGNEE(S): Independent Administrative Institution
 National Institute for Materials Science,
 Japan

SOURCE: U.S. Pat. Appl. Publ., 10 pp.
 CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
US 20030064294	A1	20030403	US 2002-235853	

10/595,942-330158-EIC SEARCH

2002
0906

<--

JP 2003084652 A 20030319 JP 2001-272499

2001
0907

<--

JP 3728410 B2 20051221

PRIORITY APPLN. INFO.: JP 2001-272499 A

2001
0907

<--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 04 Apr 2003

AB Disclosed is a pretreatment method for a hologram recording medium used in the hologram recording method in which information signals loaded on signal beam are recorded by injecting coherent signal beam and reference beam to the hologram recording medium which is exposed to first light having first wavelength of UV band or short-wavelength visible light band in advance in order to generate light-induced absorption, wherein the coherent signal beam and reference beam each having longer wavelength than the first wavelength. The pretreatment method comprises subjecting the hologram recording medium to oxidation treatment prior to the irradiation of the first light has been completed.

IT 1314-61-0, Tantalum oxide
12031-66-2, Lithium tantalate
12057-24-8, Lithium oxide, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(pretreatment method for hologram recording medium containing)

RN 1314-61-0 HCAPLUS
CN Tantalum oxide (Ta2O5) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 12031-66-2 HCAPLUS
CN Lithium tantalum oxide (LiTaO3) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

RN 12057-24-8 HCAPLUS
CN Lithium oxide (Li2O) (CA INDEX NAME)

Li-O-Li

IC ICM G03H001-04
INCL 430001000; 430002000; 359007000; 430394000
CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT Optical reflectors
(pretreatment method for hologram recording medium containing)

IT 1313-96-8, Niobium oxide 1314-61-0, Tantalum oxide 12031-63-9, Lithium niobate (LiNbO3)
12031-66-2, Lithium tantalate
12057-24-8, Lithium oxide, uses
195144-63-9, Lithium oxide (LiO2)
RL: TEM (Technical or engineered material use); USES (Uses)
(pretreatment method for hologram recording medium containing)

L88 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN

10/595,942-330158-EIC SEARCH

ACCESSION NUMBER: 2002:439054 HCAPLUS Full-text
 DOCUMENT NUMBER: 137:25970
 TITLE: ~~Lithium tantalate~~ single
 crystals and ~~optical~~ devices using
 them
 INVENTOR(S): Miyamoto, Akio; Kitamura, Kenji; Furukawa,
 Yasunori; Takekawa, Shunji
 PATENT ASSIGNEE(S): Hitachi Metals, Ltd., Japan; National
 Institute for Research In Inorganic Materials
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: ~~Patent~~
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2002167297	A	20020611	JP 2000-363531	2000 1129

PRIORITY APPLN. INFO.: <--
 JP 2000-363531
 2000
 1129
 <--

ED Entered STN: 11 Jun 2002

AB The single crystals are obtained from Li-excess melts and show Na content ≤10 ppm and
 molar ratio $\text{Li}_2\text{O}/(\text{Ta}_2\text{O}_5 + \text{Li}_2\text{O})$ 0.4900-0.5200. The crystals are useful for quasi-
 phase-matched 2nd-harmonic generation (QPM-SHG) devices, gas detectors, etc. The
 crystals show decreased ~~optical~~ absorption at 280-320 nm and good resistance to ~~optical~~
 damages at <390 nm.

IT 1314-61-0, Tantalum oxide (
 Ta₂O₅) 12031-66-2, Lithium
 tantalum oxide (LiTaO₃)
 12057-24-8, Lithium oxide, uses
 RL: DEV (Device component use); TEM (Technical or engineered
 material use); USES (Uses)
 (~~lithium tantalate~~ single crystals with
 decreased UV absorption for ~~optical~~ devices)

RN 1314-61-0 HCAPLUS

CN Tantalum oxide (Ta₂O₅) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 12031-66-2 HCAPLUS

CN Lithium tantalum oxide (LiTaO₃) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

RN 12057-24-8 HCAPLUS

CN Lithium oxide (Li₂O) (CA INDEX NAME)

Li_O_Li

IC ICM C30B029-30

ICS G02B001-02; G02F001-03; G02F001-355; G02F001-37

10/595,942-330158-EIC SEARCH

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST lithium tantalate single crystal
optical device; nonlinear optical device
lithium tantalate single crystal; UV absorption
decrease lithium tantalate single crystal

IT Optical materials
(lithium tantalate single crystals with decreased UV absorption for optical devices)

IT Optical instruments
(nonlinear; lithium tantalate single crystals with decreased UV absorption for optical devices)

IT 7440-23-5, Sodium, miscellaneous
RL: MSC (Miscellaneous)
(content-controlled; lithium tantalate single crystals with decreased UV absorption for optical devices)

IT 1314-61-0, Tantalum oxide (Ta2O5) 12031-66-2, Lithium tantalum oxide (LiTaO3)
12057-24-8, Lithium oxide, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(lithium tantalate single crystals with decreased UV absorption for optical devices)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L88 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2001:397790 HCAPLUS Full-text

DOCUMENT NUMBER: 135:12383

TITLE: Single crystal of lithium niobate or tantalate and its optical element, and process and apparatus for producing an oxide single crystal

INVENTOR(S): Kitamura, Kenji; Furukawa, Yasunori; Takekawa, Shunji; Kimura, Shigeyuki

PATENT ASSIGNEE(S): National Institute for Research In Organic Materials, Japan

SOURCE: U.S. Pat. Appl. Publ., 31 pp., Division of U.S. Ser. No. 521,899.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
US 20010001944	A1	20010531	US 2001-754187	2001 0105
			<--	
US 6464777	B2	20021015		
US 6673330	B1	20040106	US 2000-521899	2000 0309
			<--	
JP 2001287999	A	20011016	JP 2000-341130	2000 1108
			<--	
JP 4107365	B2	20080625		
JP 2003267798	A	20030925	JP 2000-341132	2000

10/595,942-330158-EIC SEARCH

1108

JP 2007269626 A 20071018 JP 2007-100442

2007
0406

JP 2008176335 A 20080731 JP 2008-39835

2008
0221

PRIORITY APPLN. INFO.: JP 1999-84999 A
1999
0326

JP 1999-317565 A
1999
1109

JP 1999-317572 A
1999
1109

US 2000-521899 A3
2000
0309

JP 2000-341130 A3
2000
1108

JP 2000-341132 A3
2000
1108

ED Entered STN: 03 Jun 2001

AB A single crystal of Li niobate or tantalate is grown from a melt of a composition having an excessive Li over its stoichiometric composition, and having a molar fraction of $\text{Li}_2\text{O}/(\text{Nb}_2\text{O}_5+\text{Li}_2\text{O})$ or $\text{Li}_2\text{O}/(\text{Ta}_2\text{O}_5+\text{Li}_2\text{O})$ within a range of at least 0.490 and <0.500, wherein at least one element selected from the group consisting of Mg, Zn, Sc and In is contained in an amount of from 0.1 to 3.0 mol based on the total amount of the at least one element, Nb and Li, or the total amount of the at least one element, Ta and Li. A process is described for producing an oxide single crystal by rotation pulling by a double crucible made of a noble metal consisting of an outer crucible made of a noble metal, and a cylindrical inner crucible for intersecting the surface of a melt in the outer crucible and connecting the melt at the bottom of the melt. The process comprises pulling a single crystal from the inner crucible while directly measuring the weight of the growing crystal for growing, simultaneously supplying a gas into a closed container, supplying a powder material preserved in the closed container between the outer crucible and the inner crucible through a supply tube in the same amount by weight as the crystal growth, and growing the crystal by rotating the double crucible.

IT 12031-66-2, Lithium tantalate

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(single crystal of lithium niobate or tantalate and optical element, and process and apparatus for producing oxide single crystal)

RN 12031-66-2 HCAPLUS

CN Lithium tantalum oxide (LiTaO_3) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

IT 1314-61-0, Tantalum oxide (

10/595,942-330158-EIC SEARCH

ta2o5) 12057-24-8, Lithium
oxide (li2o), processes
RL: PEP (Physical, engineering or chemical process); PROC
(Process)
(single crystal of lithium niobate or tantalate grown from melt
of composition having molar fraction of Li2O/(Nb2O5+Li2O) or Li2O/
(Ta2O5+Li2O) within range of at least 0.490 and <0.500)

RN 1314-61-0 HCAPLUS
CN Tantalum oxide (Ta2O5) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 12057-24-8 HCAPLUS
CN Lithium oxide (Li2O) (CA INDEX NAME)

Li—O—Li

IC ICM C30B015-00
INCL 117013000
CC 75-1 (Crystallography and Liquid Crystals)
Section cross-reference(s): 73
ST lithium niobate tantalate crystal optical element; oxide
crystal growth app noble metal double crucible; polarization
inversion optical element lithium niobate tantalate
IT Czochralski crystal growth
Czochralski crystal growth apparatus
Electrooptical materials
Nonlinear optical materials
(single crystal of lithium niobate or tantalate and
optical element, and process and apparatus for producing
oxide single crystal)
IT Oxides (inorganic), processes
RL: PEP (Physical, engineering or chemical process); PROC
(Process)
(single crystal of lithium niobate or tantalate and
optical element, and process and apparatus for producing
oxide single crystal)
IT 12031-63-9, Lithium niobate 12031-66-2,
Lithium tantalate
RL: DEV (Device component use); PEP (Physical, engineering or
chemical process); PROC (Process); USES (Uses)
(single crystal of lithium niobate or tantalate and
optical element, and process and apparatus for producing
oxide single crystal)
IT 1313-96-8, Niobium oxide (nb2o5) 1314-61-0,
Tantalum oxide (ta2o5)
12057-24-8, Lithium oxide (li2o), processes
RL: PEP (Physical, engineering or chemical process); PROC
(Process)
(single crystal of lithium niobate or tantalate grown from melt
of composition having molar fraction of Li2O/(Nb2O5+Li2O) or Li2O/
(Ta2O5+Li2O) within range of at least 0.490 and <0.500)
OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE
THIS RECORD (12 CITINGS)

L88 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2001:821445 HCAPLUS Full-text
DOCUMENT NUMBER: 136:76838
TITLE: Nearly stoichiometric LiTaO3 for bulk
quasi-phase-matched devices
AUTHOR(S): Furukawa, Y.; Nakamura, M.; Takekawa, S.;
Kitamura, K.; Hatanaka, T.; Nakamura, K.; Ito,

10/595,942-330158-EIC SEARCH

CORPORATE SOURCE: H.; Alexandrovski, A.; Fejer, M. M.
 SOURCE: Oxide Corporation, Yamanashi, 408-0044, Japan
 Trends in Optics and Photonics (2001
), 50(Advanced Solid-State Lasers), 685-687
 CODEN: TOPRBS
 PUBLISHER: Optical Society of America
 DOCUMENT TYPE: Journal
 LANGUAGE: English

ED Entered STN: 12 Nov 2001

AB Nearly stoichiometric LiTaO3 (SLT) crystals exhibited a high photorefractive damage resistance along with a negligibly small green-induced IR absorption, even without the addition of MgO dopants. A bulk periodically poled device was successfully fabricated using a 3 mm-thick SLT crystal.

IT 12031-66-2D, Lithium tantalum
 oxide (LiTaO3), nearly stoichiometric
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (nearly stoichiometric LiTaO3 for bulk quasi-phase-matched
 devices)

RN 12031-66-2 HCAPLUS

CN Lithium tantalum oxide (LiTaO3) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

IT 1314-61-0, Tantalum oxide
 12057-24-8, Lithium oxide, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation using; nearly stoichiometric LiTaO3 for bulk
 quasi-phase-matched devices)

RN 1314-61-0 HCAPLUS

CN Tantalum oxide (Ta2O5) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 12057-24-8 HCAPLUS

CN Lithium oxide (Li2O) (CA INDEX NAME)

Li_O_Li

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)

ST nearly stoichiometric lithium tantalate quasi
 phase matched device

IT Optical instruments
 (quasi-phase-matched; nearly stoichiometric LiTaO3 for bulk
 quasi-phase-matched devices)

IT 12031-66-2D, Lithium tantalum
 oxide (LiTaO3), nearly stoichiometric
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (nearly stoichiometric LiTaO3 for bulk quasi-phase-matched
 devices)

IT 1314-61-0, Tantalum oxide
 12057-24-8, Lithium oxide, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation using; nearly stoichiometric LiTaO3 for bulk
 quasi-phase-matched devices)

OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE
 THIS RECORD (6 CITINGS)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE

10/595,942-330158-EIC SEARCH

FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L88 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2000:721528 HCAPLUS Full-text

DOCUMENT NUMBER: 134:48858

TITLE: Domain switching performance of stoichiometric

LiTaO₃ for bulk quasi-phase matching devices

AUTHOR(S): Kitamura, Kenji; Furukawa, Yasunori; Takekawa,

Shunji; Hatanaka, Takaaki; Ito, Hiromasa;

Gopalan, Verkatraman

CORPORATE SOURCE: National Institute for Research in Inorganic

Materials, Tsukuba-shi, 305-0044, Japan

SOURCE: OSA Trends in Optics and Photonics Series (

2000), 34(Advanced Solid State

Lasers), 321-323

CODEN: OTOFZ; ISSN: 1094-5695

PUBLISHER: Optical Society of America

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 13 Oct 2000

AB The authors grew near stoichiometric LiTaO₃ crystal from a Li-rich melt using a novel double crucible Czochralski method. The ferroelec. domain shape and domain wall smoothness were compared between the conventional and near stoichiometric LiTaO₃ crystals. The domain shape under the elec. field at room temperature strongly depended on the densities of nonstoichiometric defects. The domain shape in the conventional LiTaO₃ is basically triangular while it is hexagonal in the stoichiometric LiTaO₃. The sides of hexagon in the stoichiometric LiTaO₃ are perpendicular to the crystallog. X axes, i.e., parallel to the X faces. Therefore, considerably smooth domain walls can be obtain in the stoichiometric LiTaO₃ when the periodical domain structure is designed as each domain elongates along the Y axis. This result is promising a great improvement by using stoichiometric LiTaO₃ in fabricating quasi-phase matching wavelength conversion devices with high performances.

IT 12031-66-2, Lithium tantalate

LiTaO₃

RL: DEV (Device component use); PRP (Properties); USES (Uses)

(domain switching performance of stoichiometric LiTaO₃ for bulk
quasi-phase matching devices)

RN 12031-66-2 HCAPLUS

CN Lithium tantalum oxide (LiTaO₃) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
=====	=====	=====
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

IT 1314-61-0, Tantalum pentoxide

12057-24-8, Lithium oxide, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(domain switching performance of stoichiometric LiTaO₃ prepared
using)

RN 1314-61-0 HCAPLUS

CN Tantalum oxide (Ta₂O₅) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 12057-24-8 HCAPLUS

CN Lithium oxide (Li₂O) (CA INDEX NAME)

Li_O_Li

10/595,942-330158-EIC SEARCH

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 76
 ST domain switching phase matching stoichiometric lithium tantalate
 IT Electric field effects
 Ferroelectric domain
 Interface roughness
 Nonlinear optical properties
 Optical harmonic generation
 (domain switching performance of stoichiometric LiTaO3 for bulk quasi-phase matching devices)
 IT 12031-66-2, Lithium tantalate
 LiTaO3
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (domain switching performance of stoichiometric LiTaO3 for bulk quasi-phase matching devices)
 IT 554-13-2, Lithium carbonate 1314-61-G,
 Tantalum pentoxide 12057-24-8,
 Lithium oxide, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (domain switching performance of stoichiometric LiTaO3 prepared using)
 OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
 REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L88 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1996:338226 HCAPLUS Full-text
 DOCUMENT NUMBER: 125:21962
 ORIGINAL REFERENCE NO.: 125:4215a,4218a
 TITLE: Articles comprising a substrate made of single crystal and a process for producing the same
 INVENTOR(S): Kawaguchi, Tatsuo; Imaeda, Minoru; Fukuda, Tsuguo
 PATENT ASSIGNEE(S): Ngk Insulators, Ltd., Japan
 SOURCE: Eur. Pat. Appl., 24 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 707096	A2	19960417	EP 1995-303946	1995 0608
			<--	
EP 707096	A3	19970305		
EP 707096	B1	20011017		
R: DE, FR, GB				
US 5650006	A	19970722	US 1995-473964	1995 0607
			<--	
JP 09118595	A	19970506	JP 1995-236983	1995 0914
			<--	
JP 3725589	B2	20051214		
PRIORITY APPLN. INFO.:			JP 1994-222081	A 1994 0916

10/595,942-330158-EIC SEARCH

<--
 JP 1995-83939 A 1995
 0410

<--
 JP 1995-213462 A 1995
 0822

<--
 ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 12 Jun 1996

AB Articles (e.g., optical waveguides) are described which comprise a single crystal substrate supporting a film having a composition of $\text{LiNb}_{1-x}\text{Ta}_x\text{O}_3$ ($0 < x \leq 0.8$) formed by LPE. The film has an x-ray rocking curve half width that is not larger than that of the substrate, and the substrate may have the composition $\text{LiNb}_{1-z}\text{Ta}_z\text{O}_3$ ($0 \leq z < 0.8$; $z < x$). In forming the films, the substrate is contacted with supercooled liquid phase of a melt consisting mainly of Li_2O_3 , Nb_2O_5 , Ta_2O_5 and a flux to produce the film. The composition of the liquid phase is within a region encompassed by a straight line K linking a point A (95, 5, 0) and a point B (95, 2, 3), a straight line G linking the point A (95, 5, 0) and a point C (60, 40, 0), a straight line H linking the point C (60, 40, 0) and a point D (60, 0, 40), a straight line J linking the point B (95, 2, 3) and a point E (0, 40, 60) and a curved line I defining a composition whose saturation temperature is not more than 1200° as shown in a triangular diagram of a pseudo-ternary system of LiNbO_3 - LiTaO_3 -a melting medium.

IT 1314-61-0, Tantalum oxide

12031-66-2, Lithium tantalate

12057-24-8, Lithium oxide, processes

RL: PEP (Physical, engineering or chemical process); PROC
 (Process)

(articles comprising lithium niobate tantalate films on a
 single crystal substrate and their production)

RN 1314-61-0 HCAPLUS

CN Tantalum oxide (Ta_2O_5) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 12031-66-2 HCAPLUS

CN Lithium tantalum oxide (LiTaO_3) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

RN 12057-24-8 HCAPLUS

CN Lithium oxide (Li_2O) (CA INDEX NAME)

Li__O__Li

IC ICM C30B019-02

ICS C30B029-30

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related
 Properties)

Section cross-reference(s): 75

IT Waveguides

(optical, articles comprising lithium niobate
 tantalate films on a single crystal substrate and their production)

IT 12031-63-9, Lithium niobate 115428-32-5, Lithium niobate

tantalate ($\text{LiNb}_{0.5}\text{Ta}_{0.5}\text{O}_3$) 124566-29-6, Lithium niobium

tantalum oxide ($\text{LiNb}_{0.9}\text{Ta}_{0.1}\text{O}_3$) 152126-22-2,

Lithium niobium tantalum oxide

10/595,942-330158-EIC SEARCH

(LiNb0.35Ta0.65O3) 169227-36-5, Lithium niobate tantalate
 (LiNb0.84Ta0.16O3) 169227-37-6, Lithium niobate tantalate
 (LiNb0.59Ta0.41O3) 169227-38-7, Lithium niobate tantalate
 (LiNb0.78Ta0.22O3) 169227-39-8, Lithium niobate tantalate
 (LiNb0.32Ta0.68O3) 169227-40-1, Lithium niobate tantalate
 (LiNb0.64Ta0.36O3) 169227-41-2, Lithium niobate tantalate
 (LiNb0.88Ta0.12O3) 169227-42-3, Lithium niobate tantalate
 (LiNb0.83Ta0.17O3) 169227-43-4, Lithium niobate tantalate
 (LiNb0.24Ta0.76O3) 169227-44-5, Lithium niobate tantalate
 (LiNb0.73Ta0.27O3) 169227-45-6, Lithium niobate tantalate
 (LiNb0.85Ta0.15O3) 169227-46-7, Lithium niobate tantalate
 (LiNb0.22Ta0.78O3) 169227-47-8, Lithium niobate tantalate
 (LiNb0.91Ta0.09O3) 169227-48-9, Lithium niobate tantalate
 (LiNb0.82Ta0.18O3) 169227-49-0, Lithium niobate tantalate
 (LiNb0.71Ta0.29O3) 169227-50-3, Lithium niobate tantalate
 (LiNb0.54Ta0.46O3) 177326-82-8, Lithium niobium tantalum
 oxide (LiNb0.87Ta0.13O3) 177326-83-9, Lithium niobium
 tantalum oxide (LiNb0.8Ta0.2O3) 177326-84-0,
 Lithium niobium tantalum oxide
 (LiNb0.69Ta0.31O3) 177326-85-1, Lithium niobium tantalum
 oxide (LiNb0.56Ta0.44O3) 177326-86-2, Lithium niobium
 tantalum oxide (LiNb0.44Ta0.56O3) 177326-87-3,
 Lithium niobium tantalum oxide
 (LiNb0.33Ta0.67O3) 177326-88-4, Lithium niobium tantalum
 oxide (LiNb0.25Ta0.75O3) 177326-89-5, Lithium niobium
 tantalum oxide (LiNb0.76Ta0.24O3) 177326-90-8,
 Lithium niobium tantalum oxide
 (LiNb0.75Ta0.25O3) 177326-91-9, Lithium niobium tantalum
 oxide (LiNb0.72Ta0.28O3) 177326-92-0, Lithium niobium
 tantalum oxide (LiNb0.7Ta0.3O3)

RL: DEV (Device component use); PEP (Physical, engineering or
 chemical process); PROC (Process); USES (Uses)

(articles comprising lithium niobate tantalate films on a
 single crystal substrate and their production)

IT 1313-96-8, Niobium oxide 1314-61-0, Tantalum

oxide 1314-62-1, Vanadium oxide, processes

12031-66-2, Lithium tantalate

12057-24-8, Lithium oxide, processes

15060-59-0, Lithium vanadate (LiVO3)

RL: PEP (Physical, engineering or chemical process); PROC
 (Process)

(articles comprising lithium niobate tantalate films on a
 single crystal substrate and their production)

L88 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1996:180857 HCAPLUS Full-text

DOCUMENT NUMBER: 124:239810

ORIGINAL REFERENCE NO.: 124:44293a

TITLE: Properties and structures of TeO2 based
 glasses containing ferroelectric components

AUTHOR(S): Hu, L.; Jiang, Z.

CORPORATE SOURCE: Shanghai Inst. Optics Fine Mechanics, Academia

Sinica, Shanghai, 201800, Peop. Rep. China

SOURCE: Physics and Chemistry of Glasses (1996

), 37(1), 19-21

CODEN: PCGLA6; ISSN: 0031-9090

PUBLISHER: Society of Glass Technology

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 28 Mar 1996

AB TeO2 based LiTaO3, KNbO3, PbTiO3 and PbLaTiO3 ferroelec. components containing glasses
 were prepared and examined. It was found that PbTiO3 and PbLaTiO3 containing TeO2 based
 glasses have better thermal stability, higher refractive index and larger d. than KNbO3
 and LiTaO3 containing TeO2 based glasses. From IR and Raman spectra results it is
 deduced that PbTiO3 and PbLaTiO3 containing TeO2 based glasses consist of sym. TeO4
 trigonal bipyramids and deformed TeO4 groups and that LiTaO3 and KNbO3 containing TeO2
 based glasses consisting of TeO4 trigonal bipyramids and TeO3 trigonal pyramids. It is

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confirmed that the structural transition from TeO4 to TeO3 deteriorates the thermal stability in LiTaO3 and KNbO3 containing TeO2 based glasses.

IT 1314-61-0, Tantalum oxide
12031-66-2, Lithium tantalate (LiTaO3) 12057-24-8, Lithium oxide, properties
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(glass; properties and structures of TeO2 based glasses containing ferroelec. components)
RN 1314-61-0 HCAPLUS
CN Tantalum oxide (Ta2O5) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 12031-66-2 HCAPLUS
CN Lithium tantalum oxide (LiTaO3) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

RN 12057-24-8 HCAPLUS
CN Lithium oxide (Li2O) (CA INDEX NAME)

Li_O_Li

CC 57-1 (Ceramics)
IT Density
Ferroelectric substances
Glass temperature and transition
Infrared spectra
Raman spectra
Refractive index and Optical refraction
(properties and structures of TeO2 based glasses containing ferroelec. components)
IT 1312-81-8, Lanthanum sesquioxide 1313-96-8, Niobium oxide
1314-61-0, Tantalum oxide 1317-36-8,
Lead monoxide, properties 7446-07-3, Tellurium oxide (TeO2)
12030-85-2, Potassium niobate (KNbO3) 12031-66-2,
Lithium tantalate (LiTaO3)
12057-24-8, Lithium oxide, properties
12060-00-3, Lead titanium oxide (PbTiO3) 12136-45-7, Potassium oxide, properties 13463-67-7, Titania, properties 114952-68-0, Lanthanum lead titanium oxide (LaPbTiO3)
RL: PRP (Properties); TEM (Technical or engineered material use);
USES (Uses)
(glass; properties and structures of TeO2 based glasses containing ferroelec. components)
OS.CITING REF COUNT: 15 THERE ARE 15 CAPLUS RECORDS THAT CITE THIS RECORD (16 CITINGS)

L88 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1980:576211 HCAPLUS Full-text
DOCUMENT NUMBER: 93:176211
ORIGINAL REFERENCE NO.: 93:27933a,27936a
TITLE: Refractive indexes and surface morphology of
LPE grown lithium (niobium, tantalum)
oxide (Li(Nb,Ta)O3) films on
lithium tantalate(V)

10/595,942-330158-EIC SEARCH

substrates
 AUTHOR(S): Kondo, Susumu; Miyazawa, Shintaro; Sugii, Kiyomassa; Iwasaki, Hiroshi
 CORPORATE SOURCE: Musashino Electr. Commun. Lab., Nippon Telegr. and Teleph. Public Corp., Musashino, 180, Japan
 SOURCE: Journal of Crystal Growth (1980), 50(3), 605-11
 CODEN: JCRGAE; ISSN: 0022-0248
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 ED Entered STN: 12 May 1984
 AB Li(Nb,Ta)O₃ solid-solution films were grown on LiTaO₃ substrates from a Li₂O-V₂O₅ flux using an LPE technique. For obtaining the films suitable for optical waveguide applications, as-grown surface morphol., lattice parameter mismatches and refractive index differences between the film and the substrate were studied with regard to the solution composition Li₂O content and Nb₂O₅/Ta₂O₅ ratio in the starting solution (Li₂O-(Nb₂O₅, Ta₂O₅)-V₂O₅ affect the refractive indexes of the grown films. It was clarified that the ordinary and extraordinary refractive index differences, Δn_o and Δn_e , can be controlled independently in the range of $0-5 \times 10^{-3}$ by varying the solution composition
 IT 1314-61-0D, solid solns. with lithium oxide and niobium oxide 12031-66-2D, solid solns. with lithium niobate 12057-24-8D, solid solns. with niobium oxide and tantalum oxide
 RL: PRP (Properties)
 (refractive index of liquid phase epitaxially grown)
 RN 1314-61-0 HCAPLUS
 CN Tantalum oxide (Ta₂O₅) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 12031-66-2 HCAPLUS
 CN Lithium tantalum oxide (LiTaO₃) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

RN 12057-24-8 HCAPLUS
 CN Lithium oxide (Li₂O) (CA INDEX NAME)

Li₂O-Li

CC 73-2 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
 Section cross-reference(s): 75
 ST refraction lithium niobium tantalum oxide
 IT Refractive index and Optical refraction
 (of lithium niobium tantalum oxide films)
 IT Crystal structure
 Surface structure
 (of lithium niobium tantalum oxide films
 grown by liquid phase epitaxy on lithium
 tantalate substrates)
 IT 1313-96-8D, solid solns. with lithium oxide
 and tantalum oxide 1314-61-0D,
 solid solns. with lithium oxide and niobium
 oxide 12031-63-9D, solid solns. with lithium
 tantalate 12031-66-2D, solid solns. with

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lithium niobate 12057-24-8D, solid solns. with niobium
oxide and tantalum oxide

RL: PRP (Properties)

(refractive index of liquid phase epitaxially grown)

L88 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1973:519157 HCAPLUS Full-text

DOCUMENT NUMBER: 79:119157

ORIGINAL REFERENCE NO.: 79:19329a,19332a

TITLE: Stoichiometry and optical quality of
lithium tantalate(V) single
crystals

AUTHOR(S): Miyazawa, Shintaro; Iwasaki, Hiroshi

CORPORATE SOURCE: Musashino Electr. Commun. Lab., Nippon Telegr.
and Teleph. Public Corp., Musashino, Japan

SOURCE: Review of the Electrical Communications
Laboratories (1973), 21(5-6), 374-83
CODEN: RELTAN; ISSN: 0029-067X

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 May 1984

AB The phase diagram of the $\text{Li}_2\text{O}-\text{Ta}_2\text{O}_5$ system for starting melt compns. $\text{Cl} = 49.0-54.25$
mole % Ta_2O_5 was determined by measuring the ferroelec. Curie temps. (TC) of the
crystals cooled from the melts. The composition of the congruently melting solid (with
 $\text{TC} = 618^\circ$) was $\text{Cl} = 51.25$ mole % Ta_2O_5 . Single crystals grown from the melt with $\text{Cl} =$
 51.25 mole % Ta_2O_5 by the Czochralski method with the temperature controlled to $\pm 0.25^\circ$
during the crystal pulling with optically homogeneous (birefringence variation of $<10-$
5 throughout the crystal). Such crystals were homogeneous in composition and TC value
throughout the boule. For crystals with the congruent-melting composition, the ratio
of the min. to the maximum transmitted light intensities ($\lambda = 6328 \text{ \AA}$ from a He-Ne
laser) increased from 0.25 to 3% as the light-beam diameter was increased from 1 to 6
mm, resp.

IT 12031-66-2

RL: PEP (Physical, engineering or chemical process); PROC
(Process)

(crystal growth of, elec. and optical properties in
relation to)

RN 12031-66-2 HCAPLUS

CN Lithium tantalum oxide (LiTaO_3) (CA INDEX NAME)

Component	Ratio	Component Registry Number
=====	=====	=====
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

IT 1314-61-0

RL: PRP (Properties)

(system, lithium oxide-)

RN 1314-61-0 HCAPLUS

CN Tantalum oxide (Ta_2O_5) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 12057-24-8

RL: PRP (Properties)

(system, tantalum oxide-)

RN 12057-24-8 HCAPLUS

CN Lithium oxide (Li_2O) (CA INDEX NAME)

Li__O__Li

10/595,942-330158-EIC SEARCH

CC 70-1 (Crystallization and Crystal Structure)
 Section cross-reference(s): 68, 73, 71
 ST lithium tantalum oxide system; Curie temp
 lithium tantalate; single crystal
 lithium tantalate; birefringence
 lithium tantalate
 IT Crystal growth
 Curie point, ferroelectric
 (of lithium tantalum oxide)
 IT Birefringence
 (of lithium tantalum oxide single crystals)
 IT 12031-66-2
 RL: PEP (Physical, engineering or chemical process); PROC
 (Process)
 (crystal growth of, elec. and optical properties in
 relation to)
 IT 1314-61-0
 RL: PRP (Properties)
 (system, lithium oxide-)
 IT 12057-24-8
 RL: PRP (Properties)
 (system, tantalum oxide-)
 OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE
 THIS RECORD (3 CITINGS)

L88 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2010 ACS on STN
 ACCESSION NUMBER: 1973:76711 HCAPLUS Full-text
 DOCUMENT NUMBER: 78:76711
 ORIGINAL REFERENCE NO.: 78:12169a,12172a
 TITLE: Stoichiometry and optical quality of
 lithium tantalate single
 crystals
 AUTHOR(S): Miyazawa, Shintaro; Iwasaki, Hiroshi
 CORPORATE SOURCE: Musashino Electr. Commun. Lab., Nippon Telegr.
 Teleph. Public Corp., Musashino, Japan
 SOURCE: Kenkyu Jitsuyoka Hokoku - Denki Tsushin
 Kenkyusho (1972), 21(9), 1739-51
 CODEN: DTKKAA; ISSN: 0415-3200
 DOCUMENT TYPE: Journal
 LANGUAGE: Japanese
 ED Entered STN: 12 May 1984

AB The phase diagram of the system $\text{Li}_2\text{O}-\text{Ta}_2\text{O}_5$ was determined from the composition
 dependence of the Curie temperature of LiTaO_3 . The congruent composition was found to
 be 48.75/51.25 in Li/Ta molar ratio, at which optically homogeneous single crystals of
 LiTaO_3 can be grown from the melt. The extinction ratio of these crystals was 1.5% for
 the 6328 Å light beam of about 4 mm diameter. On the other hand, change in
 birefringence of a crystal grown from the stoichiometric melt (Li/Ta = 50/50) was
 measured and agrees with calculated values. In order to grow high quality crystals from
 the stoichiometric melt, it is required to control the temperature within $\pm 0.3^\circ$.
 IT 12031-66-2
 RL: PEP (Physical, engineering or chemical process); PROC
 (Process)
 (crystal growth of, optical quality and stoichiometry
 in relation to)
 RN 12031-66-2 HCAPLUS
 CN Lithium tantalum oxide (LiTaO_3) (CA INDEX NAME)

Component	Ratio	Component
		Registry Number
O	3	17778-80-2
Ta	1	7440-25-7
Li	1	7439-93-2

IT 1314-61-0
 RL: PRP (Properties)
 (system, lithium oxide-)

10/595,942-330158-EIC SEARCH

RN 1314-61-0 HCAPLUS
 CN Tantalum oxide (Ta2O5) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 12057-24-8
 RL: PRP (Properties)
 (system, tantalum oxide-)

RN 12057-24-8 HCAPLUS
 CN Lithium oxide (Li2O) (CA INDEX NAME)

Li-O-Li

CC 70-1 (Crystallization and Crystal Structure)
 ST growth lithium tantalum oxide
 IT Optical property
 (of lithium tantalate single crystals)
 IT Crystal growth
 (of lithium tantalate, optical
 quality and stoichiometry in relation to)
 IT 12031-66-2
 RL: PEP (Physical, engineering or chemical process); PROC
 (Process)
 (crystal growth of, optical quality and stoichiometry
 in relation to)
 IT 1314-61-0
 RL: PRP (Properties)
 (system, lithium oxide-)
 IT 12057-24-8
 RL: PRP (Properties)
 (system, tantalum oxide-)

L88 ANSWER 15 OF 16 WPIX COPYRIGHT 2010 THOMSON REUTERS on STN
 ACCESSION NUMBER: 1984-103832 [198417] WPIX
 DOC. NO. CPI: C1984-044016 [199321]
 TITLE: lithium tantalate single
 crystal vertical drawing - from melt of tantalum
 pent:oxide and lithium oxide
 in e.g. a crucible of iridium
 DERWENT CLASS: E31; L03
 INVENTOR: ENOKIDA K; TSUNODA M
 PATENT ASSIGNEE: (TOKE-C) TOKYO SHIBAURA DENKI KK
 COUNTRY COUNT: 1

PATENT INFO ABBR.:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
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JP 59045999	A	19840315	(198417)*	JA	2[0]	
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APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
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JP 59045999 A		JP 1982-153842	
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19820906

PRIORITY APPLN. INFO: JP 1982-153842 19820906

ED 20050420

AN 1984-103832 [198417] WPIX

AB JP 59045999 A UPAB: 20050420

10/595,942-330158-EIC SEARCH

Tantalum pentoxide and lithium oxide in a prescribed molar ratio are charged directly into a crucible of platinum-platinum rhodium or iridium. After melting them, a single crystal of lithium tantalate is vertically drawn. Inclusion of impurities can be decreased. Sintering and grinding steps are not required. Defects during the growth of the single crystal can be obviated. The expensive raw materials can be efficiently used. The cost of the crystal substrate of LiTaO3 can be lowered and quality surface wave resilient elements provided.

L88 ANSWER 16 OF 16 WPIX COPYRIGHT 2010 THOMSON REUTERS on STN
 ACCESSION NUMBER: 1977-47926Y [197727] WPIX
 TITLE: Lithium tantalate light
 modulating element production - using melt of
 tantalum oxide and
 lithium oxide to give single
 lithium tantalate crystal
 DERWENT CLASS: E31; L03; P81; V07
 INVENTOR: TSUYA H
 PATENT ASSIGNEE: (NIDE-C) NIPPON ELECTRIC CO
 COUNTRY COUNT: 1

PATENT INFO ABBR.:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 52063743	A	19770526	(197727)*	JA		
<--						
JP 58048519	B	19831028	(198347)	JA		
<--						

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 52063743 A		JP 1975-140516	
19751121			

PRIORITY APPLN. INFO: JP 1975-140516 19751121

ED 20050417

AN 1977-47926Y [197727] WPIX

AB JP 52063743 A UPAB: 20050417

The LiTaO2 light modulation element is produced from single crystal of lithium tantalate which is bred from the melt of tantalum oxide and lithium oxide having mol. ratio of Li/Ta of 1.15-1.25 by polarisation under 60-40 V/cm. electric field and heat treatment at 400-500 degrees C in oxygen atmos.

DATA NOT AVAILABLE FOR THIS ACCESSION NUMBER

=> d 188 15-16 full

L88 ANSWER 15 OF 16 WPIX COPYRIGHT 2010 THOMSON REUTERS on STN
 AN 1984-103832 [198417] WPIX Full-text
 DNC C1984-044016 [199321]
 TI Lithium tantalate single crystal vertical
 drawing - from melt of tantalum pent:oxide and lithium
 oxide in e.g. a crucible of iridium
 DC E31; L03
 IN ENOKIDA K; TSUNODA M
 PA (TOKE-C) TOKYO SHIBAURA DENKI KK
 CYC 1
 PI JP 59045999 A 19840315 (198417)* JA 2[0]
 <--
 ADT JP 59045999 A JP 1982-153842 19820906
 PRAI JP 1982-153842 19820906

10/595,942-330158-EIC SEARCH

IPCR C30B0015-00 [I,A]; C30B0015-00 [I,C]; C30B0029-10 [I,C];
C30B0029-30 [I,A]
EPC C30B0015-00+29/30
AB JP 59045999 A UPAB: 20050420
Tantalum pentoxide and lithium oxide in a prescribed molar ratio are charged directly into a crucible of platinum-platinum rhodium or iridium. After melting them, a single crystal of lithium tantalate is vertically drawn.
Inclusion of impurities can be decreased. Sintering and grinding steps are not required. Defects during the growth of the single crystal can be obviated. The expensive raw materials can be efficiently used. The cost of the crystal substrate of LiTaO3 can be lowered and quality surface wave resilient elements provided.
FS CPI
MC CPI: E35-N; L02-A09

L88 ANSWER 16 OF 16 WPIX COPYRIGHT 2010 THOMSON REUTERS on STN
AN 1977-47926Y [197727] WPIX Full-text
TI Lithium tantalate light modulating element
production - using melt of tantalum oxide and
lithium oxide to give single lithium
tantalate crystal
DC E31; L03; P81; V07
IN TSUYA H
PA (NIDE-C) NIPPON ELECTRIC CO
CYC 1
PI JP 52063743 A 19770526 (197727)* JA
<--
JP 58048519 B 19831028 (198347) JA
<--

ADT JP 52063743 A JP 1975-140516 19751121
PRAI JP 1975-140516 19751121
IPCR C01G0035-00 [I,A]; C01G0035-00 [I,C]; C09K0003-00 [I,A];
C09K0003-00 [I,C]; C30B0029-10 [I,C]; C30B0029-30 [I,A];
C30B0033-00 [I,A]; C30B0033-00 [I,C]; C30B0033-04 [I,A];
G02F0001-01 [I,C]; G02F0001-03 [I,A]; G02F0001-05 [I,A];
H01L0041-24 [I,A]; H01L0041-24 [I,C]
AB JP 52063743 A UPAB: 20050417
The LiTaO2 light modulation element is produced from single crystal of lithium tantalate which is bred from the melt of tantalum oxide and lithium oxide having mol. ratio of Li/Ta of 1.15-1.25 by polarisation under 60-40 V/cm. electric field and heat treatment at 400-500 degrees C in oxygen atmos.
FS CPI; GMPI; EPI
MC CPI: E35-N; L02-G07; L03-D04; L03-G02

10/595,942-330158-EIC SEARCH

FULL SEARCH HISTORY

=> d his nofile

(FILE 'HOME' ENTERED AT 12:55:42 ON 07 MAY 2010)

FILE 'HCAPLUS' ENTERED AT 12:55:49 ON 07 MAY 2010

E US20090108232/PN

L1 1 SEA SPE=ON ABB=ON PLU=ON US20090108232/PN
D ALL
SEL RN

FILE 'REGISTRY' ENTERED AT 12:58:40 ON 07 MAY 2010

L2 3 SEA SPE=ON ABB=ON PLU=ON (12031-66-2/BI OR 12057-24-
8/BI OR 1314-61-0/BI)
D SCA

FILE 'REGISTRY' ENTERED AT 13:03:10 ON 07 MAY 2010

FILE 'HCAPLUS' ENTERED AT 13:03:24 ON 07 MAY 2010
D SCA L1

FILE 'REGISTRY' ENTERED AT 13:03:34 ON 07 MAY 2010

L3 1 SEA SPE=ON ABB=ON PLU=ON 12031-66-2/RN
D SCA
L4 1 SEA SPE=ON ABB=ON PLU=ON 1314-61-0/RN
L5 1 SEA SPE=ON ABB=ON PLU=ON 12057-24-8/RN

FILE 'HCAPLUS' ENTERED AT 13:04:32 ON 07 MAY 2010

FILE 'REGISTRY' ENTERED AT 13:04:51 ON 07 MAY 2010
D L3 CN
D L4 CN
D L5 CN

FILE 'HCAPLUS' ENTERED AT 13:05:36 ON 07 MAY 2010

L6 4831 SEA SPE=ON ABB=ON PLU=ON L3

FILE 'REGISTRY' ENTERED AT 13:05:52 ON 07 MAY 2010

SET SMARTSELECT ON
L7 SEL PLU=ON L3 1- NAME : 5 TERMS
SET SMARTSELECT OFF

FILE 'HCAPLUS' ENTERED AT 13:05:52 ON 07 MAY 2010

L8 4918 SEA SPE=ON ABB=ON PLU=ON L7
L9 5233 SEA SPE=ON ABB=ON PLU=ON L6 OR L8
L10 19677 SEA SPE=ON ABB=ON PLU=ON L4

FILE 'REGISTRY' ENTERED AT 13:06:15 ON 07 MAY 2010

SET SMARTSELECT ON
L11 SEL PLU=ON L4 1- NAME : 12 TERMS
SET SMARTSELECT OFF

FILE 'HCAPLUS' ENTERED AT 13:06:16 ON 07 MAY 2010

L12 30017 SEA SPE=ON ABB=ON PLU=ON L11
L13 31488 SEA SPE=ON ABB=ON PLU=ON L10 OR L12
L14 18247 SEA SPE=ON ABB=ON PLU=ON L5

FILE 'REGISTRY' ENTERED AT 13:06:58 ON 07 MAY 2010

SET SMARTSELECT ON
L15 SEL PLU=ON L5 1- NAME : 5 TERMS
SET SMARTSELECT OFF

FILE 'HCAPLUS' ENTERED AT 13:06:58 ON 07 MAY 2010

L16 28098 SEA SPE=ON ABB=ON PLU=ON L15
L17 15108 SEA SPE=ON ABB=ON PLU=ON L14 AND L16

10/595,942-330158-EIC SEARCH

L18	12990	SEA SPE=ON	ABB=ON	PLU=ON	L16 NOT L17
L19	4516	SEA SPE=ON	ABB=ON	PLU=ON	L6 AND L8
L20	18206	SEA SPE=ON	ABB=ON	PLU=ON	L10 AND L12
L21	39	SEA SPE=ON	ABB=ON	PLU=ON	L17 AND L19 AND L20
L22		QUE SPE=ON	ABB=ON	PLU=ON	(MOLAR OR MOLE) (4A)RATIO
L23	3	SEA SPE=ON	ABB=ON	PLU=ON	L21 AND L22
		D SCA			
		D 1-3 KWIC			
L24	1	SEA SPE=ON	ABB=ON	PLU=ON	L1 AND L23
		D SCA			
		D ABS			
L25	3	SEA SPE=ON	ABB=ON	PLU=ON	(LIO2) (2W) (TA2O5)
		D KWIC			
L26	2	SEA SPE=ON	ABB=ON	PLU=ON	0.975 (3W) 0.982
		D KWIC			
		D 2			
		D KWIC 2			
L27	18	SEA SPE=ON	ABB=ON	PLU=ON	GTOREQ (4A) 0.975
		D KWIC			
L28	10	SEA SPE=ON	ABB=ON	PLU=ON	LTOREQ (4A) 0.982
L29	0	SEA SPE=ON	ABB=ON	PLU=ON	L27 AND L28
L30	129	SEA SPE=ON	ABB=ON	PLU=ON	((LITHIUM OR DILITHIUM) (A) (OXIDE OR DIOXIDE) OR LIO2 OR O2LI OR LI2O OR OLI2) (5W) (TANTALUM(A) OXIDE OR TA2O5 OR O5TA)
		D KWIC			
		D 5 KWIC			
L31	10	SEA SPE=ON	ABB=ON	PLU=ON	L30 AND L22
		D KWIC			
		D 5 KWIC			
L32	1	SEA SPE=ON	ABB=ON	PLU=ON	L31 AND (L26 OR L27 OR L28)
		D KWIC			
L33	1	SEA SPE=ON	ABB=ON	PLU=ON	L32 AND L21
L34	3	SEA SPE=ON	ABB=ON	PLU=ON	L21 AND L22
L35	20	SEA SPE=ON	ABB=ON	PLU=ON	L21 AND ((L22 OR L23 OR L24 OR L25 OR L26 OR L27 OR L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34))
		D KWIC			
		D 3 KWIC			
		D SCA L1			
		E BIREFRINGENCE/CT 25			
		E E3+ALL			
L36	89176	SEA SPE=ON	ABB=ON	PLU=ON	BIREFRINGENCE+MAX/CT
L37	2	SEA SPE=ON	ABB=ON	PLU=ON	L36 AND L21
		D KWIC			
		D 2 KWIC			
L38	37641	SEA SPE=ON	ABB=ON	PLU=ON	BIREFRING?
L39	3	SEA SPE=ON	ABB=ON	PLU=ON	L21 AND L38
		D KWIC			
L40	19976	SEA SPE=ON	ABB=ON	PLU=ON	-.0.0005
		D KWIC			
L41	19976	SEA SPE=ON	ABB=ON	PLU=ON	0.0005
L42	850	SEA SPE=ON	ABB=ON	PLU=ON	L40 (4A) L41
		D KWIC			
L43	45	SEA SPE=ON	ABB=ON	PLU=ON	L40 (L) (L36 OR L38)
L44	45	SEA SPE=ON	ABB=ON	PLU=ON	L41 (L) (L36 OR L38)
L45	45	SEA SPE=ON	ABB=ON	PLU=ON	L43 AND L44
		D KWIC			
		D 30 KWIC			
L46	1	SEA SPE=ON	ABB=ON	PLU=ON	L42 (L) (L36 OR L38)
		D KWIC			
L47		QUE SPE=ON	ABB=ON	PLU=ON	LENS? OR OPTIC? OR OPTO?
L48	17	SEA SPE=ON	ABB=ON	PLU=ON	L21 AND L47
		D KWIC			
L49	4	SEA SPE=ON	ABB=ON	PLU=ON	L48 AND (L36 OR L38)
L50	1	SEA SPE=ON	ABB=ON	PLU=ON	L49 AND ((L40 OR L41 OR L42 OR L43 OR L44 OR L45 OR L46))

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L51 3 SEA SPE=ON ABB=ON PLU=ON L48 AND L22
 D KWIC
 D KWIC 2
 D KWIC 3
 L52 5 SEA SPE=ON ABB=ON PLU=ON L48 AND (L22 OR L36 OR
 L38)
 D SCA
 L53 3 SEA SPE=ON ABB=ON PLU=ON L52 AND ((L23 OR L24 OR
 L25 OR L26 OR L27 OR L28 OR L29))
 L54 4 SEA SPE=ON ABB=ON PLU=ON L52 AND L30
 L55 4 SEA SPE=ON ABB=ON PLU=ON L53 OR L54
 L56 1 SEA SPE=ON ABB=ON PLU=ON L52 AND ((L40 OR L41 OR
 L42 OR L43 OR L44 OR L45 OR L46))
 D KWIC
 L57 17 SEA SPE=ON ABB=ON PLU=ON (L48 OR L49 OR L50 OR L51
 OR L52 OR L53 OR L54 OR L55 OR L56)
 L58 1 SEA SPE=ON ABB=ON PLU=ON L57 AND L1
 D KWIC
 L59 QUE SPE=ON ABB=ON PLU=ON PY=<2005 NOT P/DT
 L60 QUE SPE=ON ABB=ON PLU=ON (PY=<2005 OR PRY=<2005 OR
 AY=<2005 OR MY=<2005 OR REVIEW/DT) AND P/DT
 L61 14 SEA SPE=ON ABB=ON PLU=ON L57 AND (L59 OR L60)

 FILE 'MEDLINE, BIOSIS, EMBASE' ENTERED AT 13:49:04 ON 07 MAY 2010
 L62 0 SEA SPE=ON ABB=ON PLU=ON L3
 L63 24 SEA SPE=ON ABB=ON PLU=ON L4
 D KWIC
 L64 8 SEA SPE=ON ABB=ON PLU=ON L5
 L65 0 SEA SPE=ON ABB=ON PLU=ON L63 AND L64
 L66 145 SEA SPE=ON ABB=ON PLU=ON L7
 L67 262 SEA SPE=ON ABB=ON PLU=ON L11
 L68 183 SEA SPE=ON ABB=ON PLU=ON L15
 L69 0 SEA SPE=ON ABB=ON PLU=ON L66 AND L67 AND L68

 FILE 'DISSABS, PASCAL, CONFSCI, JAPIO, WPIX' ENTERED AT 13:51:44
 ON 07 MAY 2010
 L70 2760 SEA SPE=ON ABB=ON PLU=ON L7
 L71 12031 SEA SPE=ON ABB=ON PLU=ON L11
 L72 9963 SEA SPE=ON ABB=ON PLU=ON L15
 L73 25 SEA SPE=ON ABB=ON PLU=ON L70 AND L71 AND L72
 D KWIC
 L74 5 SEA SPE=ON ABB=ON PLU=ON L73 AND L22
 D KWIC
 L75 1 SEA SPE=ON ABB=ON PLU=ON L73 AND L38
 D KWIC
 L76 1 SEA SPE=ON ABB=ON PLU=ON L74 AND L75
 D KWIC
 L77 5 SEA SPE=ON ABB=ON PLU=ON (L74 OR L75 OR L76)
 L78 1 SEA SPE=ON ABB=ON PLU=ON L77 AND ((L25 OR L26 OR
 L27 OR L28))
 D QUE L30
 L79 2 SEA SPE=ON ABB=ON PLU=ON L77 AND L30
 D SCA
 L80 1 SEA SPE=ON ABB=ON PLU=ON L77 AND (L40 OR L41)
 D KWIC

 FILE 'HCAPLUS' ENTERED AT 13:59:09 ON 07 MAY 2010
 L81 18 SEA SPE=ON ABB=ON PLU=ON 0.0005(3A) (PLUS OR MINUS)
 D KWIC
 L82 0 SEA SPE=ON ABB=ON PLU=ON L81 AND L39

 FILE 'DISSABS, PASCAL, CONFSCI, JAPIO, WPIX' ENTERED AT 14:00:40
 ON 07 MAY 2010
 L83 1 SEA SPE=ON ABB=ON PLU=ON L77 AND L81
 D KWIC
 L84 5 SEA SPE=ON ABB=ON PLU=ON (L77 OR L78 OR L79 OR L80)

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OR L83
SAV TEMP L84 PEE942MULT/A
L85 0 SEA SPE=ON ABB=ON PLU=ON L84 AND L59
L86 3 SEA SPE=ON ABB=ON PLU=ON L84 AND L60
L87 3 SEA SPE=ON ABB=ON PLU=ON L85 OR L86
SAV TEMP L87 PEE942MULT/A

FILE 'HCAPLUS' ENTERED AT 14:08:48 ON 07 MAY 2010
SAV TEMP L61 PEE942HCP/A

FILE 'STNGUIDE' ENTERED AT 14:09:18 ON 07 MAY 2010
D QUE L61
D QUE L69
D QUE L87

FILE 'HCAPLUS, WPIX' ENTERED AT 14:12:26 ON 07 MAY 2010
L88 16 DUP REM L61 L69 L87 (1 DUPLICATE REMOVED)
ANSWERS '1-14' FROM FILE HCAPLUS
ANSWERS '15-16' FROM FILE WPIX
D L88 1-16 IBIB ED ABS HITSTR HITIND
D L88 15-16 FULL